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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,498	03/01/2004	Alexandros Makriyannis	UCONAP/226/US	1028
2543	7590	05/30/2007	EXAMINER	
ALIX YALE & RISTAS LLP 750 MAIN STREET SUITE 1400 HARTFORD, CT 06103			SAEED, KAMAL A	
		ART UNIT	PAPER NUMBER	
		1626		
		MAIL DATE	DELIVERY MODE	
		05/30/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/790,498	MAKRIYANNIS ET AL.
	Examiner Kamal A. Saeed	Art Unit 1626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

- 1) Responsive to communication(s) filed on 30 January 2007.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 15-20 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-14 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 11/08/04 & 01/11/2005.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

### ***DETAILED ACTION***

Claims 1-20 are pending in this application. Claims 14-20 are withdrawn from further consideration by the Examiner, 37 C.F.R. § 1.142(b), as being drawn to a non-elected invention. The withdrawn subject matter is patentably distinct from the elected subject matter as it differs in structure and element and would require separate search considerations. In addition, a reference, which anticipates one group, would not render obvious the other.

### ***Information Disclosure Statement***

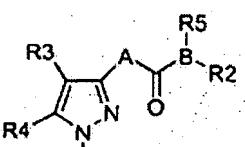
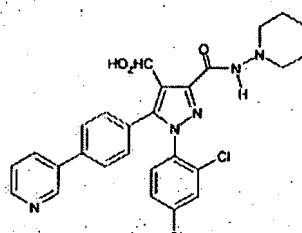
Applicant's Information Disclosure Statements, filed on November 08, 2004 and January 11, 2005 have been considered. Please refer to Applicant's copy of the 1449 submitted herewith.

### ***Priority***

This Application is a CIP of 371 of International Application No. PCT/US02/27644, filed on August 29, 2002 which claims benefit of U.S. Provisional Application No. 60/316,515 filed on August 31, 2001.

### ***Response to Restriction***

Applicants' election with traverse of Group I, claims 1 -14 (in part), drawn to compounds

of Formula,  , and specific compound of  in response filed January 29, 2007 is acknowledged.

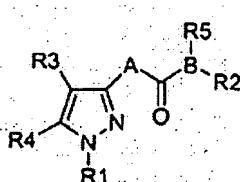
Applicant's arguments filed January 29, 2007 have been fully considered and found partially persuasive and the search was performed to the proposed family presented by the

Applicants. However, the scope was not extended to the whole scope as presented in claim 1. However, even though an art rejection has not been made in this application, the requirement for restriction is maintained and the search has only been extended to the proposed family of compounds. It is pointed out that the restriction requirement is made under 35 U.S.C. 121. 35 U.S.C. 121 gives the Commissioner (Director) the authority to limit the examination of an application where two or more independent and distinct inventions are claimed to only one invention. The Examiner has indicated that more than one independent and distinct invention is claimed in this application and has restricted (limited) the claimed subject matter accordingly. For example, the claims encompass heteroaryl groups which are variously classified, therefore "heteroaryl" has been restricted out of the generic embodiment identified for examination. The following is an illustration of the varied classification of the heteroaryl groups: pyrazinyl is classified in class 544 and subclass 336+; pyrimidinyl is classified in class 544 and subclass 242+; pyridinyl is classified in class 546 and subclass 268.1+; oxazolyl is classified in class 548 and subclass 215+; thiazolyl is classified in class 548 and subclass 146+; etc. . . Thus, the requirement to restrict the claims in this application is predicated on the fact that the claimed subject matter involves more than one independent and distinct invention. Moreover, it would constitute a burden to extend the search because separate search considerations would be involved in both the U.S. Patents and in the literature. The examination process following the search could easily result in different and thus burdensome considerations. The restriction requirement here is predicated on the premise that the various compounds involved differ in structure and element so much so as to be patentably distinct, i.e. a reference which anticipated the elected compounds claimed would not even render obvious the others.

Again, 35 U.S.C. 121 gives the Commissioner (Director) the authority to limit the examination of an application to a single invention. Applicant has not presented evidence that the examined subject matter is patentably indistinct from the non-examined subject matter. Nor have the even argued to the contrary. Moreover, the sheer number of variables, their huge possibilities, and the almost incomprehensible number of permutations and combinations thereof result in compounds so numerous and diverse so as to be a burden just to classify, search, and examine. Accordingly, the requirement to restrict is considered proper and is maintained. The search and examination of the application is directed to the generic embodiment identified for examination only.

The claims in the elected Group have not been found allowable, therefore, the possibility of rejoinder of Groups II cannot be addressed at this time. Whether the public will be inconvenienced because they will not know whether Applicants will file a divisional application to the non-elected subject matter is not a required consideration for a restriction requirement (see 35 U.S.C. 121).

*The scope of the elected subject matter and the search has been extended as follows:*



Compounds of formula , depicted in claim 1, wherein:

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**A** is a direct bond;

**B** is N;

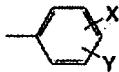
**R1** is  $-(CH_2)_n-Z$ .

**n** is 0.

**Z** is an aromatic ring having about 5 to about 7 ring members or an aromatic ring having about 5 to about 7 ring members substituted on at least one available ring atom by an alkyl group; and wherein the connecting point between the  $-(CH_2)_n$ - group and the **Z** group can be any available ring carbon atom; or

**Z** is a 6 member aromatic ring or a substituted 6 member aromatic ring; and wherein the connecting point between the  $-(CH_2)_n$ - group and the **Z** group can be any available ring carbon atom; or

**Z** is



wherein **X** and **Y** each independently comprise H, halogen, N<sub>3</sub>, NCS, CN, NO<sub>2</sub>, NX<sub>1</sub>X<sub>2</sub>, OX<sub>3</sub>, OAc, O-acyl, O-aryl, NH-acyl, NH-aryl, CHO, CF<sub>3</sub>, COOX<sub>3</sub>, SO<sub>3</sub>H, SO<sub>2</sub>NX<sub>1</sub>X<sub>2</sub>, CONX<sub>1</sub>X<sub>2</sub>, alkoxy, alkylmercapto, alkylamino, di-

alkylamino, alkylsulfinyl, alkylsulfonyl or (when Z comprises a structure having two adjacent carbon atoms methylene dioxy.

X<sub>1</sub> and X<sub>2</sub> each independently comprise H or alkyl, or

X<sub>1</sub> and X<sub>2</sub> together comprise part of a heterocyclic ring having about 4 to about 7 ring members and optionally one additional heteroatom selected from O, N or S, or

X<sub>1</sub> and X<sub>2</sub> together comprise part of an imide ring having about 5 to about 6 members.

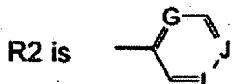
X<sub>3</sub> comprises H, alkyl, hydroxyloweralkyl or alkyl-NX<sub>1</sub>X<sub>2</sub>.

X<sub>4</sub> comprises H or alkyl.

R2 is selected from a carbocyclic ring having about 4 to about 7 members, a heterocyclic ring having about 4 to about 7 members, an aromatic ring having about 5 to about 7 ring members, a heteroaromatic ring having about 5 to about 7 members, a bicyclic ring, a heterobicyclic ring, a tricyclic ring, a heterotricyclic ring, a polycyclic ring or a heteropolycyclic ring; or

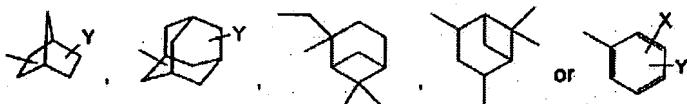


wherein G comprises CH or N, and L and J each independently comprise (CH<sub>2</sub>)<sub>n</sub>, O, NH or S, n is an integer from 0 to about 7; or



wherein G, L and J each independently comprise CH or N; or

R2 is selected from



wherein X and Y each independently comprise H, halogen, N<sub>3</sub>, NCS, Ph (phenyl), CN, NO<sub>2</sub>, NX<sub>1</sub>X<sub>2</sub>, OX<sub>3</sub>, OAc, O-acyl, O-acyl, NH-acyl, NH-acyl, CHO, CF<sub>3</sub>, COOX<sub>3</sub>, SO<sub>3</sub>H, SO<sub>2</sub>NX<sub>1</sub>X<sub>2</sub>, CONX<sub>1</sub>X<sub>2</sub>, alkyl, alcohol, alkoxy, alkylmercapto, alkylamino, di-alkylamino, alkylsulfinyl or alkylsulfonyl.

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$X_1$  and  $X_2$  each independently comprise H or alkyl, or

$X_1$  and  $X_2$  together comprise part of a heterocyclic ring having about 4 to about 7 ring members and optionally a second heteroatom selected from O, N or S, or

$X_1$  and  $X_2$  together comprise part of an imide ring having about 5 to about 6 members.

$X_3$  comprises H, alkyl, hydroxyloweralkyl or alkyl-N $X_1X_2$ ; or

$R_2$  is selected from a carbocyclic ring having 6 ring atoms fused to a heterocyclic ring having from 5 to 7 ring atoms, a carbocyclic ring having 6 ring atoms fused to a heteroaromatic ring having from 5 to 7 ring atoms, a heterocyclic ring having 6 ring atoms fused to a heterocyclic ring having from 5 to 7 ring atoms, an heterocyclic ring having 6 ring atoms fused to a heteroaromatic ring having from 5 to 7 ring atoms, an aromatic ring having 6 ring atoms fused to a heterocyclic ring having from 5 to 7 ring atoms, an aromatic ring having 6 ring atoms fused to a heteroaromatic ring having from 5 to 7 ring atoms, a heteroaromatic ring having 6 ring atoms fused to a heterocyclic ring having from 5 to 7 ring atoms or a heteroaromatic ring having 6 ring atoms fused to a heteroaromatic ring having from 5 to 7 ring atoms.

$R_5$  is H or alkyl;

$R_3$  is CN,  $CH_3$  or  $CH_2OH$ ;

$R_4$  is  $-Ph-(CH_2)_n-Z$ .

$n$  is 0.

and  $Z$  represents a heterocyclic group.

As a result of the election and the corresponding scope of the invention identified supra, the remaining subject matter of claims 1-14 are withdrawn from further consideration pursuant to 37 CFR 1.142 (b) as being drawn to non-elected inventions. Therefore the subject matter which are withdrawn from consideration as being non-elected subject differ materially in structure and composition and have been restricted properly a reference which anticipated but the elected subject matter would not even render obvious the withdrawn subject matter and the fields of search are not co-extensive.

**Claim Rejections - 35 USC § 112**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-5 and 310-12 recite the term “comprises” in reference to variable such as  $R^1$ ,  $R^2$  or  $R^3$  etc. The term “comprising” is open-ended in nature whereas a chemical compound must be claimed with precision. It is suggested to delete the term “comprises” and replace it with terms “is”.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites “one of the structures 1-1, 1-2, 1-3, 1-4, 1-5.....”. The structures are described in the specification. Claims must, under modern claim practice, stand alone to define an invention, and incorporation into claims by express reference to the specification is not permitted. *Ex parte Fressola*, 27 USPQ 2d 1608 (1993). Therefore, Applicants need to either recite all the examples contemplated in the claim or amend the claim so that it will not refer to anything in the specification.

**Telephone Inquiry**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kamal A Saeed, Ph.D. phone number is (571) 272-0705. The examiner can normally be reached on M-T 7:00 AM- 5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Joseph K. McKane, can be reached at (571) 272-0699.

Communication via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by applicant and should be addressed to [joseph.mckane@uspto.gov]. All Internet e-mail communications will be made of record in the application file. PTO employees will not communicate with applicant via Internet e-mail where sensitive data will be exchanged or where there exists a possibility that sensitive data could be identified unless there is of record an express waiver of the confidentiality requirements under 35 U.S.C. 122 by the applicant. See the Interim Internet Usage Policy published by the Patent and Trademark Office Official Gazette on February 25, 1997 at 1195 OG 89.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or public PAIR only. For more information about the pair system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197.



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